

REMARKS

Claims 8 and 9 have been amended. Claims 10-15 have been added.

Attached hereto is a marked-up version of the changes to the claims made by this Amendment. This marked-up version has been entitled "Version With Markings To Show Changes Made."

The Examiner has rejected applicants' claim 9 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. More particularly, the Examiner stated that there is insufficient antecedent basis for the limitation "the conversion characteristic mode" in claim 9.

In order to avoid this rejection, applicants have amended claim 9 to recite "conversion characteristic changing means for changing a conversion characteristic mode...", thereby providing the necessary antecedent basis for the limitation objected to by the Examiner. Accordingly, applicants submit that applicants' amended claim 9 now particularly points out and distinctly claims applicants' invention. Such claim is thus in compliance with the provisions of 35 U.S.C. §112, second paragraph.

The Examiner has further rejected applicants' claim 8 under 35 U.S.C. 102(e) as being anticipated by the Sato, et al. (U.S. 5,832,318) patent. This rejection is respectfully traversed.

Applicants' independent claim 8 recites a conversion means for converting a rotating amount of a rotary operation member into an amount of variation of the control data of a position of a lens. Claim 8 now further recites a conversion characteristic changing means for changing a conversion characteristic mode of the conversion means. Such a construction is not taught or suggested by the cited Sato, et al. patent.

More particularly, the Examiner has argued with respect to the Sato, et al. patent as follows:

"Depending on how fast the rotative member (105) is operated the CPU will drive the lens the appropriate distance (col. 6, lines 15-21). For example if the CPU (5) detects a fast operating speed, for each pulse detected by the operation member (105) the motor will be driven by 8 pulses (col. 6, line 53 – col. 7, line 4). The system includes three different detected speed of the operation member (105) – high, normal, and low. Each of these different detected speeds of the operation member (105) relates to a different driving amount of the zooming motor (8). Therefore, the conversion characteristic changing means is changing between the different detected rotation speeds of the operation member (105) since for each detected pulse of the operation member (105) a different number of pulses are generated for each of the speeds. The number of pulses relates to the distance that the lens is being driven." (Emphasis Added)

The Examiner's argument is thus based on the teaching in the Sato, et al. patent that there is a variable relationship between how fast the operation member (105) is operated, i.e., the rotation speed of the operation member, and the amount of variation of the control data of a position of a lens. Specifically, the Sato, et al. patent teaches that within specified focal length ranges, the zooming motor will be driven by a number of pulses depending on the rotating speed, i.e. low, normal or high, of the operation member. Col. 6, lines 60-67.

With the system of the Sato, et al. patent, however, if a lens is moved from object A to object B, the lens stops at object B accurately when it is operated quickly, but not when it is operated slowly. Applicants' invention is intended to overcome this problem in using a variable relation between the rotating amount of an operation member and the amount of variation of the control data of a lens position. Moreover, applicants note that, in the Sato, et al. patent, the relation between the rotating amount and the amount of variation of the control data of the lens is fixed, and, as previously stated, it is the rotating speed that varies with the amount of variation of the control data of the lens position.


Therefore, applicants submit that applicants' amended claim 8, and its respective dependent claims, in reciting "conversion means for converting a rotating amount of said rotary operation member into an amount of variation of the control data of a position of a lens . . . and conversion characteristic changing means for changing a conversion characteristic mode of said conversion means", patentably distinguish over the Sato, et al. patent.

In view of the above, it is submitted that applicants' claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is respectfully requested.

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Respectfully submitted,

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Version With Markings To Show Changes Made

In the Claims:

8. (Amended) A lens control apparatus, comprising:

a rotary operation member;

conversion means for converting a rotating amount of said rotary operation member into an amount of variation of the control data of a position of a lens; and

conversion characteristic changing means for changing a conversion characteristic mode of said conversion means.

9. (Amended) A lens control apparatus, comprising:

a rotary operation member;

conversion means for converting a rotating amount of said rotary operation member into an amount of variation of the control data of a position of a lens; and

conversion characteristic changing means for changing a conversion characteristic mode of said conversion means; and

wherein when the conversion characteristic mode set at this time is different from the conversion characteristic mode set in the previous sampling, the reference data of the amount of variation of the conversion characteristic mode set at this time is corrected based on the control data of the conversion characteristic mode set in the previous sampling.

Add claims 10-15 as follows:

-- 10. A lens control apparatus according to claim 8, wherein said lens is a focusing lens constituting a camera lens. --.

-- 11. A lens control apparatus according to claim 9, wherein said lens is a focusing lens constituting a camera lens. --.

-- 12. A television camera provided with a lens control apparatus in accordance with claim 8.

13. A television camera provided with a lens control apparatus in accordance with claim 9.

14. A television camera provided with a lens control apparatus in accordance with claim 10.

15. A television camera provided with a lens control apparatus in accordance with claim 11.